



REMARKS/ARGUMENTS

Favorable reconsideration of the present application is respectfully requested.

Claims 1, 8, 15 and 22 have been amended to clarify that the feed mechanism comprises a traction roller which advances a printing medium by gripping the printing medium. Basis for this is inherent in the description that the average feed error is dependent on the degree of slipperiness of the printing medium. See, e.g., the paragraph bridging pp. 9-10.

Printing media in printing devices are commonly advanced in the sub-scanning direction using either pin feed type tractors or by traction rollers which advance the media by gripping the media surface. The claimed invention is directed to a problem arising when using traction rollers, whereby a printing medium being advanced in the sub-feed direction by the traction roller can slip by a certain amount, particularly for printing media having slippery surfaces. See, e.g., p. 1, lines 16-21. The claims therefore recite a feature whereby the feed amount is set such that an average feed error is in the vicinity of zero for a given type of printing medium. For example, if the average printing error is set to be zero for the most slippery printing medium, e.g., photographic paper, dark banding can be avoided (page 11, lines 19-27).

Claims 1, 8, 9, 15, 22 and 23 have been rejected under 35 U.S.C. § 103 as being obvious over the newly cited U.S. patent 5,586,496 (Shinohara et al) in view of newly cited U.S. patent 5,852,453 (Imai). According to the Office Action, Shinohara et al does not disclose adjusting the average feed error according to the slipperiness of the print medium, but that this would have been obvious in view of Imai. This rejection is respectfully traversed.

Shinohara et al discloses a dot line printer in which a continuous print paper 4 having uniformly spaced perforations is advanced in a paper feed direction by a pin feed tractor 5

(col. 1, lines 15-21). As the Office Action has recognized, there is no description in Shinohara et al of adjusting the average feed error according to the slipperiness of the print paper. In fact, this would make no sense in Shinohara et al since the feed error therein is not based on the slipperiness of the paper. Since Shinohara et al feeds a continuous print paper 4 having uniformly spaced perforations using a pin type feeding mechanism 5, any feed error present therein would result from errors in the hole spacing or a malfunction of the pin type feeding mechanism – not the slipperiness of the paper. Therefore, whatever the teachings of Imai, one skilled in the art would not have found it obvious to have adjusted the average feed error in Shinohara et al according to the slipperiness of the print medium.

Additionally, Imai fails to teach adjusting the average feed error in a paper feed mechanism so that an average feed error δ_{ave} is in the vicinity of zero with respect to at least one specific printing medium or the most slippery printing medium. Imai discloses an inkjet printer having a non-pin type platen roller 4. Since the platen roller 4 of Imai is a traction type roller, the paper being fed can slip in view of its surface properties. However Imai only generally teaches that the platen roller should be driven at a timing that can be adjusted according to the properties of the paper being fed (col. 8, lines 40-55). It does not teach the claimed feature that the adjustment should be such that an average feed error δ_{ave} is in the vicinity of zero with respect to at least one specific printing medium or the most slippery printing medium. Therefore, even disregarding the fact that adjusting the feed rate according to the paper properties would make no sense for the pin type paper feed mechanism in Shinohara et al, Imai would not motivate one skilled in the art to modify Shinohara et al according to the claimed invention.

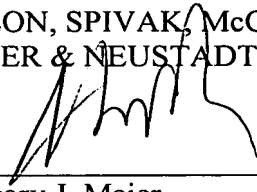
With respect to the rejection of the dependent claims under 35 U.S.C. § 103 as being obvious over Shinohara et al in view of Imai and JP '863 (paragraph 4), JP '863 was cited to

teach features of the dependent claims and provides no teachings for overcoming the
aforementioned shortcomings of Shinohara et al in view of Imai.

Applicant therefore believes that the present application is in a condition for
allowance and respectfully solicits an early Notice of Allowability.

Respectfully submitted,

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